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Doctoral Dissertation

**Aspects of Designing and Evaluation  
of Library Information Systems  
at the beginning of the 21<sup>st</sup> century**

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ABSTRACT

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## **Thesis**

Frequency and intensity of search tools use could be affected by level of user experience (UX). Information systems should meet specific conditions to enable users reaping benefits and achieving their goals. That can be supported by accessibility (ability to use it in variety of circumstances), usability (ease of use), and functionality (ability to complete tasks).

Foregoing assumptions refer to software in general, including library search engines for end users, also discovery and delivery systems. Discovery and delivery solutions enable library patrons to seek information coming from multiple sources. Their increasing popularity is one of the reasons of considering their accessibility, usability and functionality.

## **Purpose and methods**

The general purpose of the dissertation was to develop a model of library information tools interfaces' evaluation that might be useful for librarians and designers to examine discovery and delivery systems, and other search interfaces. Additionally, proper and inadequate solutions appearing in current implementations were presented. The other specific aims were to indicate recommendations useful for people implementing and evaluating discovery layers, to discuss Polish terminology on discovery and delivery systems, and to demonstrate research methods.

Following research methods and instruments were applied in the dissertation:

- decisive literature review;
- automated accessibility evaluation;
- heuristic evaluation, cognitive walkthrough;
- usability tests (involving users);
- in-depth interviews;
- System Usability Scale (SUS).

## **Results and conclusions**

Research show the need of improvements in Polish implementations of discovery and delivery systems, especially in terms of usability. As a result the list of recommendations addressed to people involved into implementing and configuring search layers was presented along with diagrams supporting decision-making process in terms of selecting research methods.

Provided models might be applied to research conducted by librarians, but also by other people seeking to improve the level of web-based information services accessibility, usability, and functionality.

## **Originality and value**

The increase of Polish libraries and information centres' interest in accessibility, usability, and functionality search tools research could be contributed by the dissertation. Reliable diagnosis of problems occurring in Polish libraries was presented, as well as recommended solutions. Methods supporting issues diagnosing and improving process were introduced. The original model for assessing information-retrieval systems that can be used in relation to all kinds of other similar tools was a significant result of the dissertation.

Lack of Polish language literature on discovery and delivery systems, and on issues of accessibility, usability and functionality of library web-based services were problems that the thesis tried to dispose. Attempts to organise the terminology of library information systems for end users were made.